



The German Cancer Research Center is the largest biomedical research institution in Germany. With more than 3,000 employees, we operate an extensive scientific program in the field of cancer research.

The Division of **Medical Physics in Radiology** is seeking a

## PhD Candidate for Hardware Development of an Implant Testbed

(Ref-No. 2022-0165)

### Job description:

MRI scanning of patients with implants poses a potential safety hazard and even though international standards exist to address these risks, improvements are needed. This project is part of an international consortium to update and improve current standards related to implant safety in MRI. The aim of the project is to develop reference parallel transmit (pTx) hardware for radiofrequency (RF) testing of implants at a frequency equivalent of 3 Tesla MRI.

The successful applicant will be involved in:

- development and construction of a reference design for a multi-channel transmit body array,
- design and construction of the RF transmission chain for the pTx system (including modulators and amplifiers),
- development of a streamlined user interface for controlling the measurement system.

### Requirements:

Successful candidates will become members of a multidisciplinary international team and should:

- hold a graduate degree (Master's / Diplom) in physics, engineering, or a related scientific or technical field,
- possess keen interest in scientific research and be able to work independently,
- have experience in electromagnetic theory or electric circuit design,
- have experience in at least one programming language (preferred: C/C++, Matlab, Python)
- have good oral and written communication skills in both German (ideal) and English (mandatory).

Experience in MR physics including coil design would be beneficial but is not a prerequisite.

### We offer:

- Interesting, versatile workplace
- International, attractive working environment
- Campus with modern state-of-the-art infrastructure
- Access to international research networks
- Doctoral student payment including social benefits
- Flexible working hours
- Comprehensive training and mentoring program through the Helmholtz International Graduate School

The position is limited to 3 years.

### Important notice:

The DKFZ is subject to the regulations of the Infection Protection Act (IfSG). As a consequence, only persons who present proof of immunity against measles as well as against COVID-19 may work at the DKFZ.

**For further information** please contact  
Prof. Dr. Mark Ladd, phone +49 (0)6221/42-2550.

The DKFZ is committed to increase the proportion of women in all areas and positions in which women are underrepresented. Qualified female applicants are therefore particularly encouraged to apply.

Among candidates of equal aptitude and qualifications, a person with disabilities will be given preference.

To apply for a position please use our online application portal ([www.dkfz.de](http://www.dkfz.de)).

We ask for your understanding that we cannot return application documents that are sent to us by post (Deutsches Krebsforschungszentrum, Personalabteilung, Im Neuenheimer Feld 280, 69120 Heidelberg) and that we do not accept applications submitted via email. We apologize for any inconvenience this may cause.

